



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,831	06/23/2003	Toshiki Taguchi	Q76239	6941
23373	7590	04/04/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			SHAH, MANISH S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/600,831

Applicant(s)

TAGUCHI ET AL.

Examiner

Manish S. Shah

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 6-11 & 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (# US 2001/0050700 A1).

Smith et al. discloses an inkjet recording method and an apparatus (figure: 1) using an ink set including a multi color ink and at least one colorless ink (element: 9a-9f, figure: 1; [0044]-[0045]; [0049]), and the color ink and the colorless ink contains a betaine compound ([0126]) in an amount of from 3 to 60% by weight ([0126]). They also disclose that the ink also includes a surfactant in an amount of from 0 to 15% by weight ([0127]). They also disclose that the ink including a dye dissolved in water or an organic solvent ([0126]).

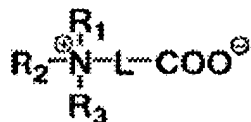
***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (# US 2001/0050700 A1) in view of Ma et al. (# EP 0924272).

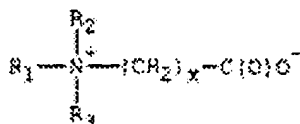
Smith et al. teaches all the limitation of the ink set except that the betaine compound is represented by the following formula.



wherein  $R_1$ ,  $R_2$  and  $R_3$  each represents an alkyl group, an aryl group or a heterocyclic group, at least two of  $R_1$ ,  $R_2$  and  $R_3$  may be linked with each other to form a ring structure; L represents a divalent linking group; and at least one of  $R_1$ ,  $R_2$ ,  $R_3$  and L is a group having from 8 to 40 carbon atoms and at least one of  $R_1$ ,  $R_2$ ,  $R_3$  is a linear alkyl group having from 8 to 40 carbon atoms.

Ma et al. teaches that to alleviating the mottle, and smear resistance printed image, ink set includes, surfactant, which is betaine compound, and which represents the following formula ([0007],[0025]).

Art Unit: 2853

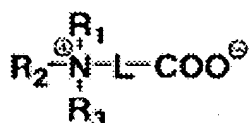


wherein  $x \approx 1-4$ ;  $R_1$  is  $C_6-C_{22}$  alkyl, aryl, or alkylaryl, linear or branched, and may contain  $-O-$ ,  $-N-$ ,  $-S-$ ,  $-C(O)-$ ,  $-C(O)O-$ ,  $-C(O)N-$ ,  $-S(O)_2N-$ , or unsaturation groups;  $R_2$  and  $R_3$  are selected from the group consisting of H,  $C_3-C_4$  alkyl,  $C_1-C_4$  hydroxyalkyl and  $C_1-C_4$  carboxy; and  $R_2$  and  $R_3$  may be connected to form a 5-6 membered cyclic structure which may contain hetero atoms selected from the group consisting of N, O, S;

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the betaine compound of Smith et al. by the aforementioned teaching of Ma et al. in order to have a mottle free and smear resistance printed image.

3. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (# US 2001/0050700 A1) in view of Reboa et al. (# US 2002/0145653 A1).

Smith et al. teaches all the limitation of the ink set except that the betaine compound is represented by the following formula.



wherein  $R_1$ ,  $R_2$  and  $R_3$  each represents an alkyl group, an aryl group or a heterocyclic group, at least two of  $R_1$ ,  $R_2$  and  $R_3$  may be linked with each other to form a ring structure; L represents a divalent linking group; and at least one of  $R_1$ ,  $R_2$ ,  $R_3$  and L is a group having from 8 to 40 carbon atoms and at least one of  $R_1$ ,  $R_2$ ,  $R_3$  is a linear alkyl group having from 8 to 40 carbon atoms.

Reboa et al. teaches that to get the high quality printed image, ink set includes, surfactant, which is betaine compound, and which represents the general formula  $R_1R_2R_3-N^+-CH_2-COO-$ , wherein  $R_1$  is  $C_8$  to  $C_{22}$  alkyl chain, and  $R_2$  and  $R_3$  are independently  $C_1$  to  $C_4$  alkyl chains ([0041]-[0047], [0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the betaine compound of Smith et al. by the aforementioned teaching of Reboa et al. in order to have a high quality printed image.

### ***Response to Arguments***

4. Applicant's arguments filed on 01/17/2006 have been fully considered but they are not persuasive. Applicant argued that Smith et al. do not contain any working example of composition containing a betaine compound and do not show any working example of composition that contains a betaine compound and surfactant other than the betaine compound. They also argued that Smith et al. do not contain any working example, which employ the combination of a betaine compound and a water-soluble dye, or the combination of a betaine compound, a water-soluble dye and a surfactant other than a betaine compound. However applicant admitted in his argument that the Smith et al. reference in [0126] disclose an ink contains a betaine, and in [0127] disclose an optional additive one or more surfactant can be added to the ink, which is enough evidence to show that it is known that ink contains the betaine and the surfactant other than the betaine. It doesn't required working example to show the betaine and the

surfactant other than the betaine in the ink composition with water-soluble dye. Only one line in the specification, there still exists evidence to show that skilled artisans used the betaine and the surfactant other than betaine together in the ink composition. Therefore Smith et al. reference reads on the applicant's claim language. Therefore it is burden on applicant to show why the Smith et al. reference does not read on the applicant's claimed invention.

5. With respect to Claims 2-5, applicant argued that the Ma et al. (272) reference didn't disclose the water-soluble dye includes the betaine. However examiner combine Ma et al. reference to just show the betaine formula, the primary reference already teaches the water soluble dye having the betaine, only thing that it didn't show the formula, that is the only reason examiner combines Ma et al. reference with Smith et al. reference. However applicant admitted in argument that the example 4-6 of the Ma et al. reference teaches the water-soluble dye. However the new reference Reboa et al. shows the betaine formula, which is used in dye based or pigment based ink.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Manish S. Shah  
Primary Examiner  
Art Unit 2853

MSS  
3/23/06